

09/890893

IMPROVEMENTS IN OR RELATING TO CONTROL AND/OR
MONITORING SYSTEMS

This invention relates to improvements in control and/or monitoring systems.

Reference throughout the specification shall now be made to the present invention
5 in relation to security systems which are in fact control and/or monitoring systems.

BACKGROUND ART

An increasing number of security systems are being installed world-wide. Further,
existing security systems are continually being upgraded as technology becomes
smarter, more monitoring/control devices are available, and the desire for
10 increased security increases.

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There is often a need to control access to a door or building by using an access
control system that uses electronic means as a token badge or card to identify
persons allowed access. Sometimes the means of electronic identification is a PIN
number that a person is required to enter via a keyboard. Usually, with the
15 appropriate identification is received, access is automatically granted.

For ease of reference the access control system will now be referred to as a card
reader.

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There a number of situations whereby the wrong identification is received, or no
identification means is received at all. For example, a person may enter in the
20 wrong PIN number, have an out of date identification device, may not have the

identification device with them or may not have been issued with such a device in the first place.

5 In the above circumstances, it is desirable for that person to have audio communication with an operator of the security system. That operator can then determine whether access can be granted and subsequently either allow or to deny that person access. This audio communication is typically supplied by a separate intercom device which usually is manufactured by a separate manufacturer to that who would normally manufacture the card reader.

This is obviously an undesirable situation.

10 As these devices are from separate manufacturers, there is no consistency in the data format. Thus, the devices do not normally share in the data between them and two separate communication networks are required to be run from the devices to the main security system.

15 Also, the devices are required to be installed separately and can take up considerable space in the process.

Further, it is not possible to have any interactions between the devices. E.g. someone swiping their card does not have immediate access to intercom functions.

It can be seen that having separate devices means they are expensive to install and maintain because of the double up of components and cabling.

20 Thus the object of the present invention to address the above problems, or at least to provide the public with the use of choices.

DISCLOSURE OF INVENTION

5 According to one aspect of the present invention there is provided an access control device including an electronic identification means.

characterised in that

5 the access control device also includes an audio communications device.

According to further aspect of the present invention there is provided a control and/or monitoring system which incorporates an access control device as described above.

According to a further aspect of the present invention there is provided a method
10 of installing a control and/or monitoring system characterised by the step of installing an access control device as described above.

Reference throughout the specification should now be made to the access control device as being a 'plus reader'. It should be appreciated that this term is used for reference only and should not be seen as limiting.

15 The electronic identification means may come in a number of forms and may include a single component or a number of different components. For example, the electronic identification means may be a card reader. This may be in the form of a swipe card device, or perhaps in some embodiments a proximity smart card reader.

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The electronic identification means may include a key pad into which alpha/numeric or some other form of data can be entered. This may be in addition to or instead of a card reader.

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In preferred embodiments the key pad has back lighting so that it can be read in the dark.

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Other embodiments of the present invention may have the electronic identification means remotely sense some physical attribute of the person wishing to gain access. For example, use a fingerprint or retina scan or other biometric devices.

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Further embodiments of the present invention the audio communications device would be in the form of an intercom and should now be referred to as such throughout the specification. Again this term should not be seen in any way as limiting.

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Preferably, the person situated by the plus reader can press a function key to operate the intercom and communicate with the operator of the security system.

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Preferably also, the operator can communicate back through the intercom.

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In some embodiments of the present invention the operator can choose when to turn on the intercom. For example, in the area close to the plus reader there may be evidence on an alarm or duress situation such as screaming. The operator can then turn on the intercom and listen to this sound.

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In some embodiments, the operator may also record any of the audio.

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The intercom may also be able to provide other audio services. For example, an intercom may play pre-stored audio clips to the user. For example, the user may swipe the card and the security system may determine that there is a message waiting for that particular user. This message may be retrieved from whatever storage system it is kept and played for the user.

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The intercom may also be able to play emergency evacuation audio clips. For example, 'Fire, please exit immediately through exit door'.

In some embodiments the present invention the plus reader may also include a display which may also display messages. In preferred embodiments, the display is a graphical LCD display with back lighting.

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The intercom may also be used as part of the company paging system. It can also be used to provide voice prompts for operations and disability situations.

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While the data from the intercom may be in any suitable format that can be used in any security system, it is preferably in digital format. This allows for easier integration with other data received through the security system and other peripheral devices and with inter-action with the electronic identification means. The digital data is also easier to store and process.

In some embodiments of the present invention, the data from the intercom may be compressed which allows for easier transmission and the use of a smaller bandwidth communication system.

5 Sub B22 It is envisaged that the person at the card reader will generate an event when pressing a designated function key on the reader that includes the intercom. This event may be recorded by the security system and as well as alerting the operator of the security system. While the operator is talking to or listening to the intercom the conversation may be optionally recorded to the operator's workstation or elsewhere.

10 In some embodiments, an occurrence of certain events can trigger the transmission of compressed audio data from the intercom such that the security system will have recorded a number of seconds of sound after the event. This means that the security system does not necessarily record sound from an intercom continuously, but only source sound from around the time of events that are of interest.

Sub B23 Data from the intercom and the card reader can be indexed to data received from other peripherals such as video cameras.

15 Sub B24 It should be appreciated that a number of technical issues needed to be overcome to ensure that the communications system and the plus reader can handle the different data needs of the systems.

20 Sub B25 For example, a typical card reader only requires communications bandwidth of maybe 40K bits per second to perform normal access control functionality. However, to handle the communications from the intercom and other peripheral devices such as camera, the communications systems need at least four times that bandwidth. For example, in one particular embodiment present invention, the bandwidth of 187.5K bps is required.

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The human ear is very sensitive to sound quality. It should also be appreciated that in the security system, sound quality is paramount, not only in communicating instructions, but also with recorded sound happening around an 'event'. Audio dropouts in security systems is something to be avoided.

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- 5 Thus, the applicants have in preferred embodiments of the invention designed a system that guarantees to poll each of plus readers at a minimum of 10 times per second. This gives the audio quality desired.

It should now be appreciated that the present invention offers a number of advantages over the prior art.

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- 10 The incorporation of a electronic identification such as a card reader along with an audio communications device such as an intercom provides cost savings and several improvements of functionality.


Firstly, common installation costs are far cheaper as only one device has to be installed and one set of cabling as opposed to two.

- 15 Secondly, integration of data can be readily achieved with the two devices in the one unit. Audio information can be played to the card user which is directly linked to the identification of that particular card user.

Visual display of various messages combined with an audio display can be readily communicated to a card holder.

The operator of a security system can also provide integrated control functions and again readily communicate with the person positioned by the access control devices.

5 Data received by the access control device with the audio or identification data can be readily integrated.

 With the embodiment of the present invention which uses digital intercom, data can be readily processed with digital data coming in from other peripheral devices such as video cameras.

10 Aspects of the present invention have been described by way of example and it should be appreciated that modifications and additions may be made thereto without departing from the scope of the appended claims.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 00/00010

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B63B 23/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B63B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 952870 C (MAX SCHRAMM), 22 November 1956 (22.11.56) --	1-3
A	US 3137013 A (J. DEVONPORT), 16 June 1964 (16.06.64) --	1-3
A	GB 2186547 A (WOLFGANG GEVERT), 19 August 1987 (19.08.87) --	1-3
A	Patent Abstracts of Japan, Vol 9, No 38, M-358 abstract of JP 59-179489 A (MITSUI ZOSEN), 12 October 1984 (12.10.84) -- -----	1-3

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/NZ00/00010

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Derwent Abstract Accession No. 97-296001/27, Class W01, W05 JP 9112092 A (Aihon KK) 28 April 1997	1 - 4
X	Derwent Abstract Accession No. 91-105582/15, Class W01, JP 3046860 A (Takatsuka M) 29 February 1991	1 - 4
X	Derwent Abstract Accession No. 90-017447/03, Class W01, JP 1295557 A (Aiphon KK) 29 November 1989	1 - 4

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NZ00/00010

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl. ⁷: G08B 3/10, E05B 45/06, 49/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G08B 3/10, E05B45/06, 49/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

AU: IPC AS ABOVE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Derwent lock, intercom, monitor, audio, speech

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Derwent Abstract Accession No. 97-509817/47, Class W01, JP 9242394 A (Mitsubishi Denki Buil Techno Service KK) 26 September 1997	1 - 4
X	Derwent Abstract Accession No. 96-462079/46, Class X25, JP 8232518 A (Matsushita Denki Sangyo KK) 10 September 1996	1 - 4
X	Derwent Abstract Accession No. 95-058647/08, Class T04, JP 6339144 A (Matsushita Electric Works Ltd) 6 December 1994	1 - 4

☒ Further documents are listed in the continuation of Box C
 ☐ See patent family annex

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

16 May 2000

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26 MAY 2000

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EE	Estonia						

INTERNATIONAL SEARCH REPORT
Information on patent family members

28/06/00

International application No.
PCT/NO 00/00010

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
DE	952870	C	22/11/56	NONE	
US	3137013	A	16/06/64	NONE	
GB	2186547	A	19/08/87	DE 8602479 U	03/04/86

THE CLAIMS DEFINING THE INVENTION ARE:

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1. An access control device including electronic identification means.
the access control device characterised in that
the access control device also includes an audio communication device
wherein the electronic identification means and the audio communications
device are configured to share data with each other.
 2. Access control device as claimed in claim 1 wherein the electronic
identification means is in the form of a card reader.
 3. An access control device as claimed in either claim 1 or claim 2 where in
the electronic identification means includes a key pad.
 4. An access control device as claimed in any one of claims 1 to 3 wherein the
audio communications device is in the form of an intercom.
 5. An access control device as claimed in any one of claims 1 to 4 wherein the
audio communications device includes the ability to play pre-stored audio
clips.
 6. An access control device as claimed in any one of claims 1 to 5 wherein the
data from the electronic identification means and audio communications
device is in a format that can be transmitted from the access control device
over a single communications cable.
 7. An access control device as claimed in any one of claims 1 to 6 which can
be activated or controlled by a remote operator.

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8. An access control device as claimed in any one of claims 1 to 7 when the audio communications device is bi-directional.
9. A control/monitoring system which incorporates an access control device as claimed in any one of claims 1 to 8.
10. A method of installing a control/monitoring system characterised by the step of installing an access control device as claimed in any one of claims 1 to 8.

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ART 34 AMOR

THE CLAIMS DEFINING THE INVENTION ARE:

1. An access control device including electronic identification means,

the access control device characterised in that

the access control device also includes an audio communication device.
2. Access control device as claimed on claim 1 wherein the electronic identification means is in the form of a card reader.
3. An access control device as claimed in either claim 1 or claim 2 where in the electronic identification means includes a key pad.
4. An access control device as claimed in any one of claims 1 to 3 wherein the audio communications device is in the form of an intercom.
5. An access control device as claimed in any one of claims 1 to 4 wherein the audio communications device includes the ability to play pre-stored audio clips.
6. An access control device as claimed in any one of claims 1 to 5 wherein the electronic identification means and the audio communications device are configured to share data with each other.
7. An access control device as claimed in any one of claims 1 to 6 wherein the data from the electronic identification means and audio

communications device is in a format that can be transmitted from the access control device over a single communications cable.

8. An access control device as claimed in any one of claims 1 to 7 which can be activated or controlled by a remote operator.
9. An access control device as claimed in any one of claims 1 to 8 when the audio communications device is bi-directional.
10. A control/monitoring system which incorporates an access control device as claimed in any one of claims 1 to 9.
11. A method of installing a control/monitoring system characterised by the step of installing an access control device as claimed in any one of claims 1 to 9.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(26) Publication Language: English

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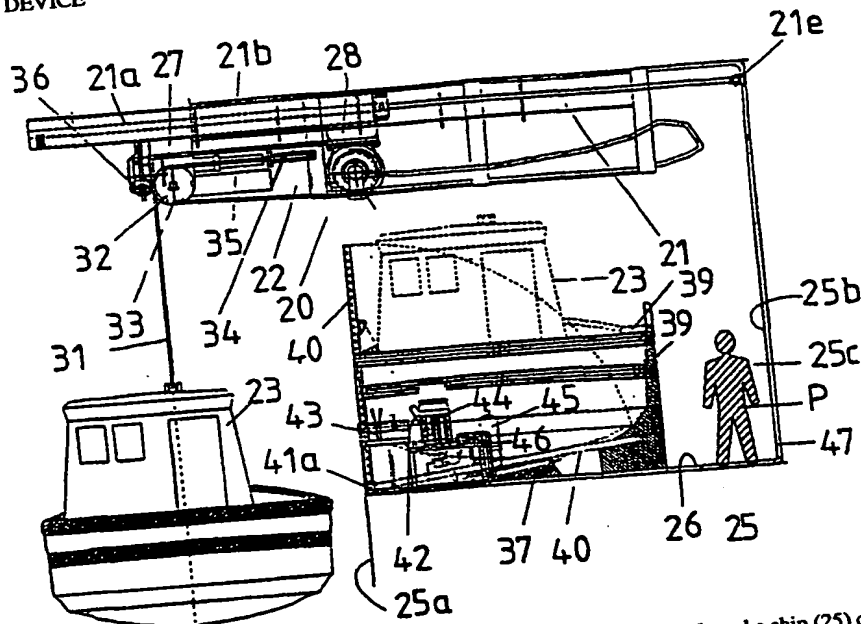
(81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

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Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DAVIT DEVICE



WO 01/51348 A1

(57) Abstract: A davit device (20) is arranged suspended over an associated boat (23) onboard a ship (25) or similar vessel. Horizontally, telescopically displaceable davit arms (121, 121) can move the boat (23) from a parking position to a launching position, and vice versa, while a hoisting device (122) can move the boat (23, 123) vertically. In that the hoisting device (122) is secured to the radially innermost, axially extendable telescope part (121a, 121a) of the davit arms (121, 121), the vertical and horizontal movements can be carried out independently, in a controlled way.

PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

15
REC'D 31 OCT 2000

WIPO PCT

Applicant's or agent's file reference 16968/3X082	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International application No. PCT/NZ00/00010	International filing date (day/month/year) 10 February 2000	Priority Date (day/month/year) 11 February 1999
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ G08B 3/10, E05B 45/06, 49/00		
Applicant CARDAX INTERNATIONAL LIMITED et al		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of 3 sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of 2 sheet(s).
3.	This report contains indications relating to the following items: I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 22 August 2000	Date of completion of the report 24 October 2000
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer J.W. THOMSON Telephone No. (02) 6283 2214

I. Basis of the report**1. With regard to the elements of the international application:***

- ☐ the international application as originally filed.
- ☒ the description, pages 1 - 8, as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☒ the claims, pages , as originally filed,
 pages , as amended (together with any statement) under Article 19,
 pages , filed with the demand,
 pages 8, 9, received on 11 October 2000 with the letter of 9 October 2000
- ☐ the drawings, pages , as originally filed,
 pages , filed with the demand,
 pages , received on with the letter of
- ☐ the sequence listing part of the description:
 pages , as originally filed
 pages , filed with the demand
 pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, was on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1 - 10	YES
	Claims	NO
Inventive step (IS)	Claims 1 - 10	YES
	Claims	NO
Industrial applicability (IA)	Claims 1 - 10	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

a) JP 9242394

b) JP 8232518

c) JP 6339144

d) JP 9112092

e) JP 3046860

f) JP 1295557

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, ,

None of these citations discloses the invention as defined in claims 1 to 10. Nor would the claimed invention be obvious or lacking an inventive step in light of these citations.